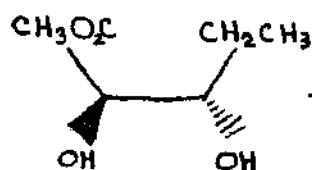
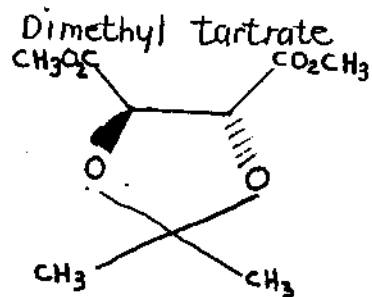
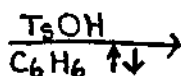
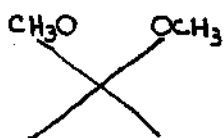


1-11-99

Formation of the ketal of Dimethyl tartrate



+



L-dimethyl tartrate 2,2-dimethoxypropene toluenesulfonic acid desired product

mmol	20.0 mmol	22.0 mmol	catalytic	$\text{C}_9\text{H}_{14}\text{O}_6$
quantity	3.56 g.	2.70 mL	0.100 g	FW: 218.0g/mol
equiv.	1.00 eq.	1.10 eq.	—	TY: 4:36 g

reference: J. Org. Chem. (1968), 32, 2571

L-Dimethyl tartrate was placed in a dry 50 mL round bottom flask and dissolved in 20 mL of benzene. A stir bar was added and 100 mg of TsOH was added to the stirring solution. 2,2-Dimethoxypropene was added via syringe, a Dean-Stark trap and water-cooled condenser were affixed to the flask and the mixture was heated at reflux overnight.

The reaction mixture was allowed to cool at rt. The reaction mixture was transferred to a separatory funnel and the flask rinsed with approximately 20 mL of ether which was added to the sep funnel. The mixture was washed 3x with saturated aqueous NaHCO_3 and once with water. The organic layer was transferred to an Erlenmeyer flask and dried with MgSO_4 , filtered and concentrated to give 4.27g of a viscous yellow liquid. Distillation produced 3.77g (86% yield) of a pale yellow liquid whose NMR spectrum is consistent with that of the desired product, dimethyl 2,3-O-isopropylidene-L-tartrate